REMARKS

Claims 1, 2, 4-11, 13-16 and 18-22 are pending in the present application. Claims 1, 10, 15, 21, and 22 have been amended to clarify the invention and claim 14 has been amended to correct a minor typographical error. Applicant respectfully responds to this Office Action.

Claim Rejections – 35 USC § 103

Claims 1, 2, 4-11, 13-16 and 18-22 have been rejected under 35 U.S.C. 103(a) as being unpatentable over Ahn et al. (US Patent No. 6,681,111) found in co-pending application 10/077,556 now abandoned, in view of Murtagh et al. (US Patent Publication No. 2004/0133623).

The Office has the burden under 35 U.S.C. § 103 to establish a prima facie case of obviousness. In re Piasecki, 745 F.2d 1468, 1471-72, 223 USPQ 785, 787 (Fed. Cir. 1984). To establish a prima facie case of obviousness, four basic criteria must be met. Obviousness is a question of law based on underlying factual inquiries, which inquiries include: (a) determining the scope and content of the prior art; (b) ascertaining the differences between the claimed invention and the prior art; (c) resolving the level of ordinary skill in the pertinent art; and, if applicable, and (d) secondary considerations. *Graham v. John Deere Co.*, 383 U.S. 1 (1966).

Applicants respectfully submit that the present claims are not obvious in view of the cited references under a *Graham* analysis. More specifically, one of ordinary skill in the art would not arrive at Applicant's claimed invention in view of the differences between the cited reference and the presented claims.

By way of illustration, but not limiting the scope of the claims, Applicants claims a General Global Gateway (GGG) which internetworks and is located between a first network and a second network. Mobile stations of the first network, such as a GSM network, support a GSM signaling protocol and a GSM authentication procedure. Mobile stations of the second network, such as a CDMA network, support a CDMA signaling protocol and a CDMA authentication procedure (paragraph [0028]). During communications, the GGG receives a location message from a mobile station and *uses an identifier in the location message to obtain authentication information to know which HLR/AuC it needs to interrogate* (paragraph [0031]). Furthermore,

the GGG *stores the first network's authentication parameters for subsequent accesses* by the mobile station. Thus, the entire authentication procedure may not need execution on a subsequent access, which means the first network's core may not need accessing (paragraph [0065]). A check is made to determine whether the authentication parameters continue to meet GGG authentication criteria. (Paragraph [0068]).

Claims 1, 10, 15 and 21

Independent claims 1, 10, 15 and 21 recite, *inter alia*, a GGG being configured to support communication between a first network and a second network to enable a mobile station (MS) subscribed in the first network to communicate using the second network, ... a logic unit configured to execute program logic to obtain authentication information from the first network based on the identity of the mobile station, to store the authentication information for subsequent accesses by the mobile station, and further configured to determine whether authentication parameters from the mobile station satisfy GGG authentication criteria.

Differences Between Prior Art and Claims: Claimed Elements are Not Taught by the Prior Art

In the rejection of independent claims 1, 10, 15 and 21 the Office Action relies on Ahn and Murtagh. In citing Murtagh, the Office Action states that "[a]ccording to Applicants, Ahn only shows a CDMA terminal with a GSM SIM card to provide roaming access to a GSM service subscriber in the CDMA area but does not show using the CDMA network for this purpose." In other words, Applicants' arguments with regard to Ahn failing to teach, disclose or suggest a "GGG configured to support communication between a GSM (or first) network and CDMA (or second) network to enable a mobile station (MS) subscribed in the GSM (or first) network to communicate using the CDMA (or second) network" were persuasive. As such, it is unclear why the Office Action repeated the rejection in the Office Action dated 10-3-07 which states that "Ahn teaches a general global gateway configured to support communications between a first network and a second network (see CDMA and GSM figure 1) to enable a mobile station subscribed in the first network to communicate using the second network (title, abstract, col. 2

lines 36-46, col. 3 lines 62-65, col. 4 lines 17-33, col. 5 lines 28-46, col. 6 lines 32-54, col. 12 lines 39-47)." (See pages 2 and 3 of the Office Actions dated 6-10-08 and 10-3-07) In addition to the citation of new art, the fact that the Office Action dated 6-10-08 was non-final is further evidence that Applicants' arguments were persuasive.

In view of the above, Applicants' arguments with respect to Ahn failing to teach a "GGG configured to support communication between a GSM (or first) network and CDMA (or second) network to enable a mobile station (MS) subscribed in the GSM (or first) network to communicate using the CDMA (or second) network" will not be addressed as Applicants maintain the position as stated in the response filed on 2/28/08. As the Office Action has failed to respond to this argument and has instead cited a new reference, it is believed that the Office Action agrees with Applicants arguments and that this is now a moot point with regard to the Ahn reference.

To overcome the deficiencies of Ahn, the Office Action cites Murtagh as teaching the limitation of a "GGG configured to support communication between a GSM (or first) network and CDMA (or second) network to enable a mobile station (MS) subscribed in the GSM (or first) network to communicate using the CDMA (or second) network." Specifically, the Office Action states that Murtagh teaches "using a virtual mobile node to allow CDMA operator the ability to offer services to subscribers of GSM network (abstract, paragraphs 0002, 0031 . . . teaches the virtual mobile node (see VM in figures 3 and 4) connected to an interworking gateway (see MAR in figure 3 and 4) wherein the virtual mobile node contains both GSM HLR and MSC functions (see figures 3 and 4, paragraphs 0033 and 0041) which means that CDMA operator can offer services to subscribers of the GSM network (paragraph 0033) and visa versa (paragraph 0034).

However, in the present invention, a general global gateway (GGG) *internetworks between a first network and a second network* and does not actually reside in one of the networks. In other words, the GGG is not located in either the first or the second network *but between the first and second network.* (See Figure 3) *It is important to internetwork between a CDMA network and a GSM network, to thereby enable the use of a CDMA-based RAN, with its attendant advantages, and enabling the use of a GSM-based core infrastructure, since GSM is extant in much of the world.* (See paragraph [0008] of the published application) The GGG includes a transceiver (not shown) that allows it to send and receive messages to and from the

CDMA network 12 and the GSM network 14. (See paragraph [0019] of the published application)

Murtagh, on the other hand, merely shows a virtual mobile (VM) node *within a CDMA network (see Figure 3)*. The VM node presents GSM HLR and MSC functions in Operator A's network to the GSM network B. These are referred to as a pseudo HLR and pseudo MSC. *This means that they operate with the foreign network's technology (protocol) but are entities of the home network*. Because they operate with the foreign network's protocol they can communicate with it via SS7. (See paragraph [0034] of Murtagh) In other words, the VM node resides in the home network and not as a separate entity between the first (or home) network and the second (or foreign) network as in the claimed invention.

Consequently, Murtagh fails to teach a general global gateway (GGG) configured to support communication between a first network and a second network to enable a mobile station (MS) subscribed in the first network to communicate using the second network as in independent claims 1, 10, 15 and 21.

Scope and Content of Cited Prior Art References and Level of Skill in the Art Do Not Provide Motivation To Combine References

Assuming, *arguendo*, that every claimed element is taught by the prior art, Applicant further submits that there is no motivation to combine Ahn and Murtagh as alleged in the Office Action.

The Office has the burden to show that one of ordinary skill in the art could have combined the elements claimed by known methods, and that in combination; each element would have merely performed the same function as it did separately. "In determining the propriety of the Patent Office case for obviousness in the first instance, it is necessary to ascertain whether or not the reference teachings would appear to be sufficient for one of ordinary skill in the relevant art having the reference before him to make the proposed substitution, combination, or other modification." *In re Linter*, 458 F.2d 1013, 1016, 173 USPQ 560, 562 (CCPA 1972).

Even if the references were combined, albeit improperly in Applicant's opinion, Applicants submit that the combination of the references does not teach or suggest a general global gateway located between a first network and a second network and configured to support

communication between the first and second networks to enable a mobile station subscribed in the first network to communicate using the second network and where the GGG obtains authentication information from the first network based on the identity of the mobile station, stores the authentication information for subsequent accesses by the mobile station and determines whether authentication parameters from the mobile station satisfy GGG authentication criteria as in independent claims 1, 10, 15 and 21.

Murtagh Reference

With regard to Murtagh, the Office Action states that "it would have been obvious . . . to modify the gateway as taught by Ahn to include both GSM and MSC functions as taught by Murtagh in order to allow CDMA operators to the ability to offer its subscribers SMS messages from other mobile users equipped with different technology handsets as taught by Murtagh (paragraph 0031)."

No independent reason has been provided whereby the teachings of Murtagh would be combined with those of Ahn to provide a general global gateway as claimed. Even if both prior art references Ahn and Murtagh may separately teach the claimed elements, there is no objective reason why a person of ordinary skill in the art would choose to combine the claimed elements (a general global gateway located between a first network and a second network and configured to support communication between the first and second networks to enable a mobile station subscribed in the first network to communicate using the second network and where the GGG obtains authentication information from the first network based on the identity of the mobile station, stores the authentication information for subsequent accesses by the mobile station and determines whether authentication parameters from the mobile station satisfy GGG authentication criteria) from among all possible other combinations. That is, even if all claimed elements are taught by Ahn and Murtagh, barring reliance on the Applicant's claims, there is no objective reason found in the cited prior art why such different systems (e.g., a system comprising a CDMA terminal with a GSM SIM card installed within it to provide roaming access to a GSM service subscriber in the CDMA service area and a system for communicating between two different networks via SS7 signaling, i.e. via a SS7 network) would be combined. Murtagh requires the use of Signaling System #7 (SS7) which is a set of telephony signaling

protocols and is merely directed to communicating short messages between different types of networks only.

As these cited prior art references operate on different communication architectures which combination is structurally and/or operationally incompatible with each other, Applicants submit that one of ordinary skill would not be motivated by the teachings of Murtagh to modify Ahn to develop the a general global gateway configured to support communication between a first network and a second network to enable a mobile station subscribed in the first network to communicate using the second network and where the GGG obtains authentication information from the first network based on the identity of the mobile station, stores the authentication information for subsequent accesses by the mobile station and determines whether authentication parameters from the mobile station satisfy GGG authentication criteria as in independent claims 1, 10, 15 and 21.

Should the Office Action maintain the position that it would have been obvious to one of ordinary skill in the art to modify and combine these references, Applicants respectfully request that a detailed explanation of how these structurally and operationally different communication architectures can be modified in view of their incompatible operation

In view of the above, Applicants submit that one of ordinary skill would not be motivated by the teachings of Murtagh to modify Ahn to develop a general global gateway configured to support communication between a first network and a second network to enable a mobile station subscribed in the first network to communicate using the second network and where the GGG obtains authentication information from the first network based on the identity of the mobile station, stores the authentication information for subsequent accesses by the mobile station and determines whether authentication parameters from the mobile station satisfy GGG authentication criteria as claimed in independent claims 1, 10, 15 and 21.

Limitation - store the authentication information for subsequent accesses by the mobile station – not addressed in Office Action

Neither Ahn nor Murtagh teach, disclose or suggest a logic unit that is configured to "*store the authentication information for subsequent accesses by the mobile station*" as in independent claims 1, 10, 15 and 21. There is no teaching in Ahn of a GGG that obtains

authentication information from the first network based on the identity of the mobile station, *stores the authentication information for subsequent accesses by the mobile station* and determines whether authentication parameters from the mobile station satisfy GGG authentication criteria as claimed. Although Ahn is directed to a roaming gateway (IRGS) that connects the GSM (or first) and CDMA (or second) networks, the IRGS performs only functions of a visitor location register (VLR) for the GSM (or first) network and a home location register (HLR) for the CDMA (or second) network. (Col. 6, line 62 to Col. 6, line 3). Applicants submit that, in fact, the CDMA terminal in Ahn communicates via the GSM SIM card, and not via the CDMA (or second) network, and therefore teaches away from the GGG having such characteristics. Specifically, the Ahn reference teaches: "The CDMA terminal that accommodates the GSM SIM card *requires additional functions for transmitting and receiving data required by the GSM system...One of the additional functions is ...to deliver data to the GSM system that is in need for user authentication when registering the location of a roaming subscriber*" (Col. 6, lines 4-11). Thus, Ahn fails to teach either a GGG configured to support communication between a GSM (or first) network and CDMA (or second) network to enable a mobile station (MS) subscribed in the GSM (or first) network to communicate using the CDMA (or second) network or that the GGG obtains authentication information from the first network based on the identity of the mobile station, *stores the authentication information for subsequent accesses by the mobile station* and determines whether authentication parameters from the mobile station satisfy GGG authentication criteria.

Moreover, when authentication of the GSM service subscriber is required, transmission and receiving of authentication data in Ahn is performed via a CDMA data burst message transmission, and this function is also performed by the CDMA terminal, and not by a GGG (Col. 6, lines 8-14). By contrast, the authentication function in the claimed invention is performed by the logic unit of the GGG.

Murtagh fails to make up for the deficiencies of Ahh as Murtagh fails to teach, suggest or disclose the authentication of a subscriber.

Furthermore, the Office Action has failed to even address the limitation that the authentication function in the claimed invention is performed by the logic unit of the GGG.

Should the Office Action take the position that either Ahn or Murtagh discloses this limitation, Applicants respectfully request that this limitation be specifically identified in the prior art to permit evaluating the references

Since Ahn and Murtagh each fail to teach or suggest the invention as claimed in independent claims 1, 10, 15 and 21, any combination of these references also fail to teach the elements of the above claims.

Secondary Considerations: No Reasonable Expectation of Success in Combining Cited References

Even if the references were combined, albeit improperly in Applicant's opinion, as described above, Applicant submits that the combination of the references does not teach or suggest a general global gateway configured to support communication between a first network and a second network to enable a mobile station subscribed in the first network to communicate using the second network and where the GGG obtains authentication information from the first network based on the identity of the mobile station, stores the authentication information for subsequent accesses by the mobile station and determines whether authentication parameters from the mobile station satisfy GGG authentication criteria as claimed.

Combining Ahn and Murtagh does not involve a simple combination of features but would require a wholesale redesign or restructuring of the communication system taught by Ahn as Ahn is directed to a system comprising a CDMA terminal with a GSM SIM card installed within it to provide roaming access to a GSM service subscriber in the CDMA service area m whereas Murtagh is directed communicating SMS messages between a home network and a foreign network via an SS7 network. Consequently, there is no reasonable expectation of success in combining these references.

Claim 6

As to dependent claim 6, the Office Action cites Murtagh as allegedly teaching the limitation "the service center is configured to send and receive Internet Protocol messages to and from the second network."

The Office has the burden to show that the prior art included each claimed element. As discussed above, Ahn and Marin fail to teach or disclose all of the limitations of the claimed invention.

The Office Action, on Page 9, relies on Murtagh for making up for this deficiency of Ahn. The Office Action cites Murtagh (paragraph [0031]) as teaching "the service center is configured to send and receive Internet Protocol messages to and from the second network." However, a careful review of Murtagh reveals that Murtagh is merely directed to a virtual mobile (VM) node that forwards a message to an Operator A's SMSC over an *internal IP network*. The VM node uses SMPP to transfer the message via a message application router (MAR), in a CDMA network, as an intermediary gateway. Although the cited section (paragraph [0031]) in the Office Action references forwarding a message over an internal IP network, this refers communications within the home network, *not different networks*. Nowhere does Murtagh disclose that *the service center is configured to send and receive Internet Protocol messages to and from the second network.*

Consequently, the cited prior art, either alone or in combination, fails to teach the limitations as claimed.

Claim 8

As to dependent claim 8, the Office Action cites Murtagh and Ahn as allegedly teaching the limitation of "the messages deliver services that are provided by the first network that may not be provided by the second network."

With regard to Ahn, the Office Action cites col. 1 lines 44-45 of Ahn as teaching "the messages deliver services that are provided by the first network that may not be provided by the second network". A careful review of col. 1 lines 44-45 reveals that Ahn is merely disclosing countries that have adopted CDMA are starting to use the advantages of the SIM card by adopting a user identify module (UIM) card that is similar to the SIM card. However, even though the size of the SIM card is identical with that of the UIM card and the SIM card can be

installed in a CDMA terminal, since *the CDMA service method is different from the GSM service method*, the user cannot receive mobile communication service using the CDMA terminal with a SIM card installed. In other words, Ahn is merely indicating that the CDMA service method is different than the GSM service method and not that the messages from the service center deliver services that are provided by one network and not another network as in the claimed invention.

With regard to Murtagh, the Office Action cites paragraphs 0002 and 0031 of Murtagh as teaching "the messages deliver services that are provided by the first network that may not be provided by the second network". A careful review of paragraphs 0002 and 0031 of Murtagh reveals that Murtagh is merely disclosing that in the prior art a CDMA operator can only offer SMS services to his own subscribers or subscribers of other CDMA network operators. In other words, Murtagh is merely indicating that the CDMA operator cannot offer these services to subscribers of GSM networks and is not indicated that the messages from the service center deliver services that are provided by one network and not another network as in the claimed invention.

Consequently, the cited prior art, either alone or in combination, fails to teach the limitations as claimed.

Claim 9

As to dependent claim 9, the Office Action cites Ahn and Murtagh as allegedly teaching the limitation of "the SMSC is configured to send and receive SMS messages to validate a subscription in a network."

With regard to Ahn, the Office Action cites col. 12 lines 39-42 of Ahn as teaching "the SMSC is configured to send and receive SMS messages to validate a subscription in a network (i.e. Ahn describes a short message service (SMS) of the roaming services where the IRGS functions as the SMC/short message center". A careful review of col. 12 lines 39-42, and the entire Ahn reference, reveals that Ahn merely discloses a Short Message Service Center (SMSC) which is a network element in the mobile telephone network which delivers SMS messages. When a user sends a text message (SMS message) to another user, the message gets stored in the SMSC which delivers it to the destination user when they are available. Ahn fails to teach,

suggest or disclose that the SMSC validates a subscription in a network as in the claimed invention.

With regard to Murtagh, the Office Action cites paragraphs [0039]-[0041] and [0047] as also teaching a "service center/gateway mobile switching center uses SMS messages to validate subscribers. A careful review of paragraphs [0039]-[0041] and [0047], and the entire Murtagh reference, reveals that Murtagh merely discloses that the VM node operates as an SMSC in the home network. Murtagh fails to teach, suggest or disclose that the SMSC validates a subscription in a network as in the claimed invention.

Consequently, the cited prior art, either alone or in combination, fails to teach the limitations as claimed.

Claim 18

As to dependent claim 18, the Office Action cites Ahn, col. 2 lines 36-46 as allegedly teaching the limitation of "communicating directly from the mobile station to the first network after the mobile station has been authenticated in the first network."

However, a careful review of col. 2 lines 36-46 of Ahn reveal that Ahn is directed to a roaming gateway (IRGS) that connects the GSM (or first) and CDMA (or second) networks, the IRGS performs only functions of a visitor location register (VLR) for the GSM (or first) network and a home location register (HLR) for the CDMA (or second) network. (Col. 6, line 62 to Col. 6, line 3). Applicants submit that, in fact, the CDMA terminal in Ahn communicates via the GSM SIM card, and not via the CDMA (or second) network, and therefore teaches away from the GGG having such characteristics. Specifically, the Ahn reference teaches: "The CDMA terminal that accommodates the GSM SIM card *requires additional functions for transmitting and receiving data required by the GSM system...One of the additional functions is ...to deliver data to the GSM system that is in need for user authentication when registering the location of a roaming subscriber*" (Col. 6, lines 4-11). When authentication of the GSM service subscriber is required, transmission and receiving of authentication data in Ahn is performed via a CDMA data burst message transmission, and this function is also performed by the CDMA terminal, and not by a GGG (Col. 6, lines 8-14). By contrast, the authentication function in the claimed invention is performed by the logic unit of the GGG.

Claims 2, 4, 5, 7, 11, 13, 14, 16, 19 and 20

As to dependent claims 2, 4, 5, 7, 11, 13, 14, 16, 19 and 20 the Office Action also cites Ahn and Murtagh, either alone or in combination, as teaching the recited limitations. While Applicant disagrees the cited prior art teaches the limitations recited in these claims, this argument need not be reached since these dependent claims are in condition for allowance due to their dependence on independent claims 1, 10 and 15.

Applicant has reviewed the references made of record and asserts that the pending claims are patentable over the references made of record.

In view of the above, therefore, Applicant respectfully requests reconsideration and withdrawal of the rejection of, and/or objection and allowance of claims 1, 2, 4-11, 13-16 and 18-22.

Should any of the above rejections be maintained, Applicant respectfully requests that the noted limitations be identified in the cited references with sufficient specificity to allow Applicant to evaluate the merits of such rejections. In particular, rather than generally citing whole sections or columns, Applicant requests that the each claimed element be specifically identified in the prior art to permit evaluating the references.

CONCLUSION

In light of the amendments contained herein, Applicant submits that the application is in condition for allowance, for which early action is requested.

Please charge any fees or overpayments that may be due with this response to Deposit Account No. 17-0026.

Respectfully submitted,

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